



CITY COUNCIL

AGENDA REQUEST

AGENDA OF:	03-01-11	AGENDA REQUEST NO:	IV-D
INITIATED BY:	JESSIE LI, PH.D., P.E. <i>Li</i> ASSISTANT UTILITIES DIRECTOR	RESPONSIBLE DEPARTMENT:	UTILITIES
PRESENTED BY:	JESSIE LI, PH.D., P.E. <i>Li</i> ASSISTANT UTILITIES DIRECTOR	DEPARTMENT HEAD:	SUELLEN STAGGS <i>SS</i> DIRECTOR OF UTILITIES
		ADDITIONAL DEPARTMENT HEAD (S):	CHRISTOPHER STEUBING, P.E., CFM, CITY ENGINEER <i>CL S</i>
SUBJECT / PROCEEDING:	SURFACE WATER TREATMENT PLANT CONSTRUCTION MATERIAL TESTING SERVICES CONTRACT AUTHORIZE ENGINEERING SERVICES CONTRACT WITH TERRACON		
EXHIBITS:	CONSTRUCTION MATERIAL TESTING SERVICE CONTRACT WITH TERRACON		
CLEARANCES		APPROVAL	
LEGAL:	EUGENIA CANO ASSISTANT CITY ATTORNEY <i>EAC</i>	ASST. CITY MANAGER:	KAREN DALY <i>kd</i>
PURCHASING:	TODD REED, CPPB PURCHASING MANAGER <i>TR</i>	ASST. CITY MANAGER:	N/A
BUDGET:	JENNIFER BROWN <i>JB</i> BUDGET & RESEARCH DIRECTOR	CITY MANAGER:	ALLEN BOGARD <i>Allen Bogard</i>
BUDGET			
EXPENDITURE REQUIRED: \$		464,175	
CURRENT BUDGET: \$		67,199,725 (SW0802)	
ADDITIONAL FUNDING: \$		0	
RECOMMENDED ACTION			
Authorize engineering services contract with Terracon for the Surface Water Treatment Plant Construction Material Testing Services for CIP No. SW0802 in an amount not to exceed \$464,175.			

EXECUTIVE SUMMARY

To meet the Fort Bend Subsidence District (FBSD) regulations, the City of Sugar Land's approved Groundwater Reduction Plan (GRP) outlines the City's planned strategies for meeting our mandated conversion to non-groundwater sources. As indicated in the GRP, the surface water treatment plant (SWTP) will be constructed for an initial production capacity of 9.0 million gallons per day (MGD) (Phase I), with capability for future expansion to 22.0 MGD (Phase II). The preliminary engineering design of the SWTP was completed in 2009 and the final engineering design was completed in January 2010. The construction of the SWTP will start in March 2011.

Construction materials engineering and testing is a critical component in the process of taking a structure off the blueprint and making it a reality. The professional material testing services will ensure materials utilized during construction meet project specifications and sustainability goals. A Request for Qualification (RFQ) was published in December 2010. A total of fourteen (14) proposals were received. Based on the published selection criteria, the selection committee reviewed all of the qualifications and selected Terracon for the services.

The major service items in the scope of work are listed below:

- Earthwork Observation and Testing, includes test samples for building subgrade, trench backfill, cement-sand backfill, perform stabilization evaluation of subgrade soil and field gradation tests, etc.
- Foundation Observation and Testing, includes observation of the driving process of pre-cast piles, observe installation of load piles and reaction piles and provide analysis by a professional engineer, and observe axial compression pile load testing performed by the contractor.
- Cast-in-Place Concrete Observation and Testing, includes sample and test the fresh concrete for each mix to ensure meeting quality requirements, perform compressive strength tests of concrete test cylinder cast in field, etc.
- Masonry Observation and Mortar and Grout Testing, includes masonry unit compressive strength testing and sample fresh grout during construction.
- Structural Steel Observation and Testing, includes quality control on the complete joint penetration welds.
- Fireproof Observation and Testing, includes measuring fireproofing material thickness, sample fireproofing material to ensure quality.

The material testing services will be provided on an "as requested" basis and will be charged based on negotiated unit rates specified in the contract. The City will pay the Engineer based on the quantities used by the City.

Funding is available for this contract in CIP SW0802. The service will cover the entire two-year construction period.

The Utilities and Engineering Departments recommend the City Council authorize the contract in an amount not to exceed \$464,175 with Terracon.

EXHIBITS

CITY OF SUGAR LAND
STANDARD CONTRACT FOR GENERAL SERVICES

Over \$50K - Form Revised 5/17/10

I. General Information and Terms.

Contractor's Name and Address: Terracon Consultants, Inc.
11555 Clay Road, Suite 100
Houston, TX 77043

Description of Services: Materials Testing for Surface Water Treatment Plant

Maximum Contract Amount: \$464,175
(\$423,305 for base services)
(\$40,870 for additional services)

Effective Date: On the latest date of the dates executed by both parties.

Termination Date: (See III C)

Contract Parts: This Contract consists of the following parts:

- I. General Information and Terms
- II. Signatures
- III. Standard Contractual Provisions
- IV. Additional Terms or Conditions
- V. Additional Contract Documents

II. Signatures. By signing below, the parties agree to the terms of this Contract:

CITY OF SUGAR LAND

CONTRACTOR: Terracon Consultants, Inc.

City Manager or Assistant City Manager

By: Alfonso Hernandez
Alfonso Hernandez, P.E.

Date: _____

Date: 02/22/11

Reviewed for Legal Compliance:

Luzmila A. Carr

III. Standard Contractual Provisions.

A. Contractor's Services. The Contractor will provide to the City the services described in this Contract under the terms and conditions of this Contract.

B. Billing and Payment. The Contractor will bill the City for the services provided at intervals of at least 30 days, except for the final billing. The City will pay the Contractor for the services provided for in this Contract with current revenues available to the City, but all the City's payments to the Contractor, including the time of payment and the payment of interest on overdue amounts, are subject to the provisions of Chapter 2251 of the Government Code. The City is not liable to the Contractor for any taxes which the City is not liable by law, including state and local sales and use taxes (Section 151.309 and Title 3, Texas Tax Code) and federal excise tax (Subtitle D of the Internal Revenue Code). Accordingly, those taxes may not be added to any bill.

C. Termination Provisions.

(1) Unless terminated earlier as allowed by this Contract, this Contract terminates:

(a) On the termination date, if any, specified in the General Information in Part 1, but the obligation of a party to complete a contract requirement pending on the date of termination survives termination; or

(b) If there is no termination date specified in the General Information in Part 1, the Contract terminates when both parties have completed all their respective obligations under the Contract.

(2) The City's city manager may terminate this Contract during its term at any time for any reason by giving written notice to the Contractor not less than five business days prior to the termination date, but the City will pay the Contractor for all services rendered in compliance with this Contract to the date of termination.

(3) If the City's city council does not appropriate funds to make any payment for a fiscal year after the City's fiscal year in which the Contract becomes effective and there are no proceeds available for payment from the sale of bonds or other debt instruments, then the Contract automatically terminates at the beginning of the first day of the successive fiscal year. (Section 5, Article XI, Texas Constitution)

D. Liability and Indemnity. Any provision of the Contract is void and unenforceable if it: (1) limits or releases either party from liability that would exist by law in the absence of the provision; (2) creates liability for either party that would not exist by law in the absence of the provision; or (3) waives or limits either party's rights, defenses, remedies, or immunities that would exist by law in the absence of the provision.

E. Assignment. The Contractor may not assign this Contract without the City's prior written consent.

F. Law Governing and Venue. This Contract is governed by the law of the State of Texas and a lawsuit may only be prosecuted on this Contract in a court of competent jurisdiction located in or having jurisdiction in Fort Bend County, Texas.

G. Entire Contract. This Contract represents the entire Contract between the City and the Contractor and supersedes all prior negotiations, representations, or contracts, either written or oral. This Contract may be

amended only by written instrument signed by both parties.

H. Independent Contractor. The Contractor will perform the work under this Contract as an independent contractor and not as an employee of the City. The City has no right to supervise, direct, or control the Contractor or Contractor's officers or employees in the means, methods, or details of the work to be performed by Contractor.

I. Dispute Resolution Procedures. If either party disputes any matter relating to this Contract, the parties agree to try in good faith, before bringing any legal action, to settle the dispute by submitting the matter to mediation before a third party who will be selected by agreement of the parties. The parties will each pay one-half of the mediator's fees.

J. Attorney's Fees. Should either party to this Contract bring suit against the other party for any matter relating to this Contract, neither party will seek or be entitled to an award of attorney's fees or other costs relating to the suit.

K. Severability. If a court finds or rules that any part of this Contract is invalid or unlawful, the remainder of the Contract continues to be binding on the parties.

L. Contractual Limitations Period. Any provision of the Contract that establishes a limitations period that does not run against the City by law or that is shorter than two years is void. (Sections 16.061 and 16.070, Texas Civil Practice and Remedies Code)

M. Conflicting Provisions. If there is a conflict between a provision in the Contractor's Additional Contract Documents and a provision in the remainder of this Contract, the latter controls.

N. Copyright. Any original work (the Work), including any picture, video, music, brochure, writing, trademark, logo or other work created by the Contractor for the use of the City under this Contract is a "work made for hire," as defined by federal copyright law. If the Work is not by law a "work made for hire," the Contractor by execution of this Contract assigns to the City all of its rights to the Work, including the copyright. The City, as the author and owner of the copyright to the Work, may alter, reproduce, distribute, or make any other use of the Work as it deems appropriate.

IV. Additional Terms or Conditions.

- A. Paragraph F) entitled AUTHORIZATION on page 8 of the Engineer's Proposal dated February 11, 2011 is deleted.
- B. By written notice to the Engineer, the City may request that the Engineer perform one or more of the additional services identified in the Alternate Cost section of the Cost Estimate in the Engineer's Proposal. Upon receipt of the City's notice, the Engineer shall begin to perform the requested additional service(s).
- C. Services, the costs of which add up to \$423,305 on Engineer's Cost Estimate in the Engineer's Proposal, will be considered the base services.
- D. Services, the costs of which add up to \$40,870 on Engineer's Cost Estimate, Alternate Cost, in the Engineer's Proposal, will be considered the additional services.
- E. Engineer will provide its services until March 31, 2013.
- F. Engineer's costs are based on a unit price basis. The quantities may be reduced or exceeded based on the Project needs. The City will pay the Engineer based on the quantities used by the City,

subject to the availability of funds appropriated for this Contract.

V. Additional Contract Documents. The following documents attached to this Contract are part of this Contract:

A. Contractor's Additional Contract Documents:

1. Terracon Consultants, Inc. Proposal Dated February 11, 2011 (11 pages)

B. City's Additional Contract Documents:

1. . Insurance Form PU-111F-2 (2 pages)



February 11, 2011

City of Sugar Land
Attn: Ms. Jessie Li, Ph.D, P.E.
111 Gillingham Lane
Sugar Land, Texas 77478

Phone: 281.275.2450
Fax: 281.275.2465

Subject: Proposal for Construction Materials Testing Services
Surface Water Treatment Plant
14601 Voss Road, Sugar Land, Texas
Terracon Proposal No. P92110173

Dear Ms. Li:

Terracon Consultants, Inc. (Terracon) is pleased to submit this proposal to provide construction materials engineering and testing services for the above referenced project. We understand that we have been selected solely based on our professional qualifications. In this proposal we present our understanding of the scope of the project, our proposed services, and our budget estimate.

A) PROJECT INFORMATION

The site is located at 14601 Voss Road in Sugar Land, Texas. The project involves the construction of a nine (9) million gallon per day capacity surface water treatment plant. The plant will include new structures, yard piping and roadways associated with the new plant. The building foundation will consist of driven pre-cast concrete piles, with auger cast-in-place piles as an alternate. The slabs at grade will be supported on thirty six (36) inches of select fill. The superstructure will consist of structural steel framing and CMU walls.

Terracon was provided with the following construction documents for preparation of this proposal: Construction plans dated January 2011, project specifications dated January 28, 2011, and Final Geotechnical Design Report prepared by CDM, dated June 2, 2011.

B) SCOPE OF SERVICES

Terracon prepared the following scope of services based on our review and understanding of the documents listed above:

Terracon Consultants, Inc. 11555 Clay Road, Suite 100 Houston, Texas 77043
P [713] 690 8989 F [713] 690 8787 terracon.com

Geotechnical ■ **Environmental** ■ **Construction Materials** ■ **Facilities**

Earthwork Observations and Testing:

1. Sample select fill, building subgrade, trench backfill, treated subgrade material and base material. Prepare and test the samples for Atterberg Limits (ASTM D4318), sieve analysis (ASTM C136, D422) and percent passing No. 200 sieve (ASTM D1140) if required.
2. Terracon recommends that one sample of soil be obtained for every 10,000 square feet from each lift of building fill to verify that the soil meets the Atterberg Limits requirements.
3. Test soil samples for moisture-density relationship (ASTM D1557, D698, D558 & Tex-113E).
4. Sample cement-sand backfill for utility trenches, mold specimens, and perform compressive strength tests in the laboratory (ASTM D1633). One set of four specimens will be sampled per week of underground utility construction and two samples will be tested at 2 and 7 days.
5. Perform stabilization evaluation of subgrade soil for proposed chemically treated paving subgrade.
6. Observe the chemical stabilization process for the pavement subgrade.
7. Perform field gradation tests of treated subgrade.
8. Verify depth of treated subgrade and base for roads.
9. Observe proofrolling operations and perform density tests of the building subgrade, select fill, trench backfill and treated subgrade using the nuclear method (ASTM D6938) to determine the moisture content and percent compaction of the soil materials. Calibration curves will be established using the sand cone method (ASTM D1556).

Foundation Observations and Testing:

1. Observe the driving process of pre-cast piles. We will document the pile type, cushion, driving cap, bearing load, hammer type, rated energy, hammer speed, pre-drilled depth, drilled diameter, piston weight, and the number of blows needed to drive the pile each foot.

2. Observe the installation of load piles and reaction piles and provide analysis by an engineer licensed in the State of Texas.
3. Observe axial compression pile load testing performed by the contractor and provide a report of our observation and evaluation in general accordance with ASTM D1143.

Reinforcing Steel Observation and Testing:

1. Observe reinforcing steel prior to concrete placement. We will observe the rebar size, spacing and configuration. Terracon recommends we be scheduled a minimum of 24 hours prior to concrete placement.

Cast-In-Place Concrete Observations and Testing:

1. Sample and test the fresh concrete for each mix. Perform tests including slump, air content, concrete temperature, and cast test specimens (ASTM C172, C31, C143, C173, and C1064).
2. A unit cost has been provided for field trailer rental and on-site testing supplies. If the client chooses for Terracon to not provide these services it is our understanding that the contractor will be responsible for maintaining the initial curing temperature of the concrete test specimens.
3. Concrete will be sampled at a frequency of 1 set of 5 cylinders every 150 cubic yards for concrete paving and 1 set of 5 cylinders every 50 cubic yards for structural concrete. Terracon requests that a copy of the approved mix design(s) be provided to us prior to placement of the concrete.
4. Perform compressive strength tests of concrete test cylinders cast in the field (ASTM C1231, C39). One set of five 4" x 8" or 6" x 12" concrete cylinders will be prepared for each set. If 6" x 12" cylinders are prepared, one cylinder will be tested at 7 days and 14 days, two will be tested at 28 days and one will be held in reserve. If 4" x 8" cylinders are prepared, one cylinder will be tested at 7 days and 14 days and three cylinders will be tested at 28 days.
5. Observe the concrete batching operation. Document the truck scale calibration date, and perform concrete slump tests on a periodic basis. In the absence of specified batch weight tolerances, Terracon will utilize TxDOT Item 421 Table 9 or 10 to evaluate the batching operations.

6. Obtain cores from the pavements and perform 9-point thickness measurements and compressive strengths (ASTM C42, C174).

Masonry Observation and Mortar and Grout Testing:

1. Observe and document the condition of storage areas for masonry materials.
2. Observe and document the mixing proportions of mortar and grout used during construction.
3. Observe the placement of reinforcing steel in CMU walls and bond beams.
4. Perform masonry unit compressive strength testing (ASTM C90).
5. Sample the fresh mortar during laboratory mixing and cast mortar cubes or cylinders for compression tests.
6. Sample the fresh grout during construction and cast grout prisms (ASTM C1019) for compressive strength tests.
7. Observe fabrication of CMU prisms, transport CMU prisms to our laboratory after initial curing, and test for compressive strength.

Structural Steel Observations and Testing:

1. Terracon recommends that the general contractor schedule a pre-erection meeting to discuss the erection sequence, review welding and bolting requirements and to review welder certification records.
2. Provide a Certified Welding Inspector (CWI) in the field to visually check accessible field bolted/welded connections in accordance with applicable AISC and AWS specifications.
3. Perform visual inspections of roof metal decking for placement including overlap, fastener spacing, supports at openings and penetrations, and puddle welds pattern, size and quality.
4. Provide a Certified Welding Inspector (CWI) on a periodic basis to visually check materials and fabrication procedures in the mill, shop and field when requested. Terracon understands that this service will be needed for a fabrication shop that is not approved by the Building Official. Therefore, this cost is not included in this cost estimate.

5. Perform visual inspections of elevated decks. We will observe the shear studs for number, pattern, and bond.
6. Utilize an Ultrasonic Flaw detector to determine the quality of complete joint penetration welds such as moment connections or splice connections. If the base material has a thickness of 5/16" or greater, Terracon recommends that those welds be tested by the Ultrasonic Method in accordance with AWS D1.1.
7. Perform visual inspections of 100% of completed accessible welds to verify that the welds meet the visual acceptance criteria contained in AWS D1.1.

Fireproofing Observations and Testing:

1. Measure fireproofing thickness of in place fireproofing material; sample fireproofing material to determine in-place density by displacement method; and measure adhesion cohesion of the fireproofing material. Terracon will test the fireproofing in accordance with the frequency and testing standards referenced in the IBC code noted in the project documents (ASTM E605 and ASTM E736).

Alternate Scope of Services:

1. Provide a field trailer for curing and testing of concrete test specimens. The cost of electrical connection and permitting are not included in our cost.
2. Observe the installation of the auger cast piles. Record the size of the shaft (including the length and auger diameter). The number, size and length of reinforcing bars used will be documented.
3. The calculated grout volume pumped into each shaft will be documented.
4. Sample the grout material used for the pile system. Sample 1 set of 6 grout cubes for each day's placement. Three samples will be tested at 7 days and three samples will be tested at 28 days.
5. Perform dry film thickness measurement of intumescent paint coatings.
6. Perform holiday testing of pipe coatings.



Additional Services:

If you would like us to perform additional work, please contact us and we will issue a short Supplement to Agreement form, or Supplemental Proposal, that outlines the additional work to be performed and associated fees. To authorize us to begin work, you simply return a signed copy of the Supplemental agreement.

• **PROJECT STAFFING AND ADMINISTRATION**

Terracon's approach to providing materials engineering services is to assign qualified field representatives, directed by Professional Engineers licensed in the State of Texas, to perform the required tests for your project. Many of our field representatives are certified by the National Institute for Certification in Engineering Technologies (NICET) and are involved in continuing training through on-the-job experience and formal instructions. Terracon is accredited by The American Association for Laboratory Accreditation (A2LA) and or Texas Department of Transportation (TxDOT) to perform the field and laboratory tests listed in this cost estimate. Terracon will assign a professional engineer to manage this project. The Project Manager's responsibilities will include:

- Attend monthly progress meetings,
- Coordinate field and laboratory testing,
- Verify quality control testing is in accordance with the project documents,
- Communicating with our field representative, contractor, and owner's site representative,
- Review laboratory and field test reports and concrete mixes,
- Inform the owner's representative and the contractor of failing results,
- Review the testing budget, and prepare invoices.

Terracon proposes to use Mr. Kelly Howes, NICET Level II in soils and asphalt and Level III in concrete, for the lead on-site field representative. Mr. Howes resume is attached for reference.

Field testing services will be provided on an "as requested" basis when scheduled by your representative. A minimum of 24 hours notice is required to properly schedule our services. To schedule our services please contact our dispatcher at (713) 690-2258. The dispatch office hours are from 7:00 a.m. to 5:00 p.m. Messages left after business hours will be checked the following business day. Terracon shall not be held responsible for tests not performed as a result of a failure to schedule our services or any subsequent damage caused as a result of a lack of testing. Terracon recommends that a copy of this proposal be provided to the general contractor so they understand our scope of services and schedule us accordingly.



C) COMPENSATION

Based on the project information available for our review, we propose an estimate cost of \$423,300. Services provided will be based on the unit rates included in the attached Cost Estimate. Please note that this is only a budget estimate and not a not-to-exceed price. Many factors beyond our control, such as weather and the contractor's schedule, will dictate the final fee for our services.

For services provided on an "as requested" basis, overtime is defined as all hours in excess of eight hours per day, outside of the normal hours of 7:00 a.m. to 6:00 p.m. Monday through Friday, and all hours worked on weekends and holidays. Overtime rates will be 1.5 times the hourly rate quoted. A four hour minimum charge is applicable to all trips made to provide our testing, observation and consulting services. The minimum charge is not applicable for trips to the project site for sample pickup only. All labor, equipment and transportation charges are billed on a portal to portal basis from our office. You will be invoiced on a monthly basis for services actually performed and/or as authorized by you or your designated representative.

If a field trailer is placed on site, the field representative's time will be billed on a portal to portal basis from the project site. The four hour minimum charge will still apply for all trips made to provide our testing, observation and consulting services. The costs for electrical service hook-up and monthly electrical service for the field trailer is not included in our cost estimate. Additionally, the cost for installing a stabilized aggregate pad to support the field trailer is not included in our cost estimate.

Test reports can be distributed via e-mail or through Terracon's Client Website. You will need to provide Terracon with a distribution list prior to the beginning of the project. The list will need to include the company name, address, contact person name, phone number, and e-mail address for each person.

You will be invoiced on a monthly basis for services actually performed and/or as authorized or requested by you or your designated representative. Terracon's total invoice fee is due within thirty days following final receipt of invoice. Quantities for re-tests, cancellations and stand-by time are not included in our fee.

D) SITE ACCESS AND SAFETY

Owner shall secure all necessary site related approvals, permits, licenses, and consents necessary to commence and complete the services and will execute any necessary site access agreement. Terracon will be responsible for supervision and site safety measures for its own employees, but shall not be responsible for the supervision or health and safety precautions for any third parties, including Owner's contractors, subcontractors, or other parties present at the site.



E) TESTING AND OBSERVATION

Owner understands that testing and observation are discrete sampling procedures, and that such procedures indicate conditions only at the depths, locations, and times the procedures were performed. Terracon will provide test results and opinions based on tests and field observations only for the work tested. Owner understands that testing and observation are not continuous or exhaustive, and are conducted to reduce – not eliminate – project risk. Owner agrees to the level or amount of testing performed and the associated risk. Owner is responsible (even if delegated to contractor) for notifying and scheduling Terracon so Terracon can perform these services. Terracon shall not be responsible for the quality and completeness of Owner's contractor's work or their adherence to the project documents, and Terracon's performance of testing and observation services shall not relieve contractor in any way from its responsibility for defects discovered in its work, or create a warranty or guarantee. Terracon will not supervise or direct the work performed by contractor or its subcontractors and is not responsible for their means and methods.

F) AUTHORIZATION

It is our understanding that an agreement for services will be provided by the City of Sugar Land. This proposal for services and accompanying limitations shall constitute the exclusive terms, conditions and services to be performed for this project.

We appreciate this opportunity of working with you and we look forward to working with you in the future.

Sincerely,
Terracon Consultants, Inc.
(TBPE Firm Registration No. P-3272)


for Chad C. Gordon, P.E.
Project Manager
Construction Services


Alfonso Hernandez, P.E.
Construction Services Manager

Attachments:

- (1) Cost Estimate



COST ESTIMATE
FOR CONSTRUCTION MATERIALS TESTING
City of Sugar Land
Surface Water Treatment Plant CIP No.: SW0803
TERRACON PROPOSAL NO. P92110173, February 11, 2011

Service	Quantity	Unit	Unit Rate	Estimate
Personnel				
Project Manager, per hour	150	hour	\$125.00	\$18,750
Geotechnical Engineer, per hour	48	hour	\$125.00	\$6,000
Assistant Project Manager, per hour	50	hour	\$100.00	\$5,000
Certified Welding Inspector (CWI / NACE Level II)	136	hour	\$90.00	\$12,240
Sr. Engineering Technician (Inclusive of Labor and Equipment)	2940	hour	\$60.00	\$176,400
Sr. Engineering Technician (Inclusive of Labor and Equipment) Overtime	294	hour	\$90.00	\$26,460
Engineering Technician (Inclusive of Labor and Equipment)	1000	hour	\$45.00	\$45,000
Engineering Technician (Inclusive of Labor and Equipment)	350	hour	\$45.00	\$15,750
Engineering Technician (Inclusive of Labor and Equipment)	150	hour	\$45.00	\$6,750
Engineering Technician (Inclusive of Labor and Equipment) Overtime	170	hour	\$67.50	\$11,475
Laboratory Testing				
Moisture Density Relationship	30	each	\$160.00	\$4,800
Atterberg Limits (ASTM D4318)	60	each	\$60.00	\$3,600
Sieve Analysis	6	each	\$80.00	\$480
Sieve Analysis Percent Passing No. 200 Sieve	10	each	\$60.00	\$600
LA Abrasion	6	each	\$250.00	\$1,500
Compressive Strength - Cement Stabilized Sand (4 specimens per set)	30	set	\$240.00	\$7,200
Compressive Strength - Grout Test Cubes (6 Cubes per Set)	50	set	\$150.00	\$7,500
Compressive Strength - Concrete Test Cylinders (ASTM C39)	3460	each	\$15.00	\$51,900
Compressive Strength - Masonry Unit (3 per Set)	4	set	\$150.00	\$600
Compressive Strength - Masonry Unit Prisms (3 Prisms per Set)	10	set	\$225.00	\$2,250
Compressive Strength - Masonry Grout Prisms (6 Prisms per Set)	35	set	\$150.00	\$5,250
Compressive Strength - Masonry Mortar Prisms (6 Prisms per Set)	35	set	\$120.00	\$4,200
Density - Spray-Applied Fireproofing Material	12	each	\$25.00	\$300
Adhesion / Cohesion - Spray-Applied Fireproofing Material	12	each	\$25.00	\$300
			Sub-total	\$423,305
Alternate Cost:				
Field Equipment				
Field Trailer Rental	18	monthly	\$300.00	\$5,400
Mobilization for Field Trailer	2	each	\$150.00	\$300
Onsite Testing Supplies	18	monthly	\$100.00	\$1,800
On-Site Testing (If Field Trailer Placed On Site)				
Compressive Strength - Concrete Test Cylinders (ASTM C39)	3460	each	\$7.00	\$24,220
Compression Machine Yearly Calibration	2	each	\$600.00	\$1,200
Auger Cast-In-Place Piles				
Compressive Strength - Grout Test Cubes (6 Cubes per Set)	45	set	\$150.00	\$6,750
Flexural Strength Testing of Pavement Beams				
Flexural Strength - Concrete Beams for Pavements	60	each	\$20.00	\$1,200

Terracon estimates a cost savings of about \$55,500 if a field trailer is placed on site to cure concrete test cylinders and perform compression tests. The savings are due to eliminating travel time for the Sr. Field Representative (Est. \$22,000) and field representative to pick up test cylinders (Est. \$13,000), and reduced cost of compression testing (Est. \$20,500).

KELLY HOWES

SENIOR ENGINEERING TECHNICIAN

PROFESSIONAL EXPERIENCE

Mr. Howes currently serves as a Senior Engineering technician in Terracon's Houston office. Mr. Howe's primary expertise is in providing construction materials testing and inspection services for large residential development projects. Mr. Howes has served as lead technician for Shadow Creek Ranch, Telfair and has recently served as an inspector for General Growth at the First Colony Mall expansion project. His responsibilities, as a senior engineering technician, are to perform a variety of construction materials inspection/testing services, compile data for assigned services, report results and communicate clearly with clients, contractors and project managers. He also manages additional technicians and serves as the on-site single point of contact for large development projects.

Mr. Howes began his career in June 2001 as a construction materials field technician. He continues to increase his responsibilities and develop proficiency in specific area of expertise. Mr. Howes is aggressively pursuing certification in various specialties through organizations such as National Institute for Certification in Engineering Technologies (NICET), American Concrete Institute (ACI), and the Texas Department of Transportation (TxDOT).

PROJECT EXPERIENCE

Shadow Creek Ranch

Mr. Howes served as lead technician during the development of this 3600 acres subdivision. He served as on-site client contact for the client as well as LJA Engineering. He managed multiple engineering technicians providing construction materials testing services for as many as 8 sections at a time including for utility installation, subgrade preparation, concrete paving, lake excavation and mass grading. Mr. Howes was responsible for observing lake liner installation, hard edge construction and doing final walk through at lake completion.

Telfair Subdivision – Newland Communities

Mr. Howes served as lead technician during the development of 4 sections of this on-going subdivision. Mr. Howes was responsible for overseeing the construction materials testing services for fill placement, utility installation and backfill, subgrade stabilization and preparation, and concrete paving. Mr. Howes serve as the liaison between the City of Sugar Land and Newland.

First Colony Mall Expansion – General Growth

Mr. Howes provided construction materials testing and inspection services during the relocation of public utilities, the construction of 4 new retail centers and new concrete surface parking. Per General Growth's contract, they had to provide an inspector approved by the City of Sugar Land to observe the relocation, backfilling, pressure testing and chlorination of the water line. Mr. Howes served as the approved inspector for General Growth.

Certifications

*NICET Level III Concrete, Level II
Soils and Asphalt*

Radiation Safety Training

*Associates Degree in Civil
Engineering Technology*

Work History

*Terracon Engineering - June 2004
to Present*

*Terra-Mar Engineering May 2003 to
June 2004*

*Frankly & Robinson November
2001 to November 2002*

Terracon

Methodist Sugar Land Hospital - Sugar Land, Texas

Mr. Howes provided construction materials testing and inspection services during the construction of a 8-story Medical Office Building, 6-story Hospital Addition, and 8-story parking garage.

- Organize testing with Project Manager and Dispatch
- Communicate with Austin Commercial (contractor) and Boykin (client representative)
- Performed soils, concrete, CMU, grout, mortar and non-destructive testing, and performed observations for rebar (elevated pan decks) and auger cast piles,

Methodist West Hospital - Houston, Texas

Mr. Howes provided construction materials testing and inspection services during the construction of a 6-story Medical Office Building, 6-story Hospital Addition, and Central Unit Plant.

- Attend Pre-construction meetings
- Organize testing with technicians and performed quality audit of technicians
- Review technician's reports and track testing locations and requirements
- Communicate with Austin Commercial (contractor) and Parsons (client representative) with testing concerns and requirements
- Performed soils, concrete, CMU, grout, mortar and non-destructive testing, and performed observations for rebar (elevated pan decks) and auger cast piles,

TERRACON

INSURANCE REQUIREMENTS

Items marked "X" are required to be provided if award is made to your firm.
Coverages Required & Limits (Figures Denote Minimums)

☒ Workers' Compensation Statutory limits, State of TX.

☒ Employers' Liability \$500,000 per employee per disease / \$500,000 per employee per accident / \$500,000 by disease aggregate

☒ Commercial General Liability:

	___ Very High/High Risk	___ Medium Risk	___ Low Risk
Each Occurrence	\$1,000,000	\$500,000	\$300,000
Fire Damage	\$300,000	\$100,000	\$100,000
Personal & ADV Injury	\$1,000,000	\$1,000,000	\$600,000
General Aggregate	\$2,000,000	\$1,000,000	\$600,000
Products / Compl Op	\$2,000,000	\$500,000	\$300,000
XCU	\$2,000,000	\$500,000	\$300,000

☒ Automobile Liability: (Any Auto)

___ Very High/ High Risk ___ Medium Risk ___ Low Risk

Combined Single Limits	Combined Single Limits
Combined Single Limits	Combined Single Limits
\$1,000,000 Bodily	\$500,000 Bodily
Injury & Property	\$300,000 Bodily
Injury & Property	Injury & Property
Includes Owned, Non-Owned	Includes Owned, Non-Owned
Owned, Non-Owned	Includes
and Hired.	and Hired.
and Hired.	and Hired.

___ Garage Liability for BI & PD
 \$1,000,000 each accident for Auto, \$1,000,000 each accident Non-Auto
 \$2,000,000 General Aggregate

___ Garage Keepers Coverage

\$500,000 any one unit/any loss and \$200,000 for contents

___ Umbrella or Excess each-occurrence with respect to primary Commercial General Liability, Automobile Liability, and Employers Liability policies at minimum limits as follows:

Contract value less than \$1,000,000: not required
 Contract value between \$1,000,000 and \$5,000,000: \$4,000,000
 Contract value between \$5,000,000 and \$10,000,000: \$9,000,000
 Contract value over \$10,000,000: \$10,000,000

☒ Professional Liability but not limited to services for Accountant, Appraiser, Architecture, Consultant, Engineering, Insurance Broker, Legal, Medical, Surveying, construction/renovation contracts for engineers, architects, constructions managers, including design/build Contractors.

Minimum limits of \$1,000,000 per claim/aggregate

This coverage must be maintained for at least two (2) years after the project is completed.

___ Builder's Risk (if project entails vertical construction)

Limit is 100% of insurable value, replacement cost basis

☒ City named as additional insured on all coverages except Professional Liability, Workers' Compensation, and Employer's Liability and list the City as the Certificate Holder.

___ Other Insurance Required:

☒ A waiver of subrogation in favor of The City of Sugar Land shall be contained in the Workers Compensation and all liability policies

except professional liability.

X Thirty (30) Days Cancellation, non-renewal, material change or coverage reduction notice required.

The words "endeavor to" are to be eliminated from the Notice of Cancellation provision on standard

ACCORD certificates.

X AmBest's Guide Rating: A-7 or better, or its Equivalent

Examples of Levels of Risk (not limited to):

- Very High Risk Contract with value of \$1,000,000 plus, include but not limited to
 - Construction including maintenance and repair of buildings
- High Risk Contract with value of \$50,000 - \$1,000,000, includes but not limited to
 - Construction including maintenance and repair of buildings
- Medium Risk Contract under \$50,000, include but not limited to
 - Construction including maintenance & repair of buildings
 - Installation, Inspection, Service & Repair include but not limited to:
(Carpet Water Removal & Cleaning, Electrical Services, Elevator Maintenance, Extermination Service, Fence Repair/Replace, Fire Extinguisher, Food Service, Fuel Delivery, Gate Opener, HVAC, Ice Machine, Janitorial, Locksmith, Office Equipment, Overhead Door, Plumbing, Sewer & Drain Cleaning, Vending Machine)
- Low Risk
 - Renters & Non-Profit Agencies include, but not limited to:
(Keep Sugar Land Beautiful, First Colony Community Associations, Avalon Community Association, etc.)

NOTE: The nature/size of a contract/agreement may necessitate higher limits than shown above. These requirements are only meant as a guide, but in any event, should cover most situations. Check with Purchasing & Risk Management if you need assistance or need additional information

BIDDER STATEMENT

I understand the Insurance Requirements of these specifications and will comply in full if awarded this contract.

BIDDER Terracon Consultants, Inc.

SIGNATURE [Signature]